BAKUMENKO, S.P., insh.

Automatic throw-over system with an intermediate relay. Energetik 6 no. 1:19-20 Ja '58. (MIRA 11:8)
(Electric switchgear)

SOV/133-59-4-7/32

AUTHORS: Vernhovtsev, L.V. and Bakumenko, S.P., Engineers

TITLE: An Experience in Accelerated Teeming of Steel (Opyt uskorennoy razlivki stali)

PERIODICAL: Stal', 1959, Nr 4, pp 314-317 (USSR)

ABSTRACT: Recent investigations (ref 1 to 3) indicated that on bottom pouring of steel at a velocity at which the top surface of the metal in the mould is free from crust, an improvement in quality of the upper part of ingots is obtained. In the present paper an investigation of the influence of the velocity of teeming on the quality of the ingots is described. Steels: carbon 10-50, 18KhGT, 35KhGSA, 20KhGSA, 20Kh-40Kh, 12KhN3-30KhN3, smelted in 40 ton furnaces and bottom poured into 3 ton ingots were used for the investigation. The velocity of teeming was controlled by varying the nozzles in the casting ladles from 45 to 75 mm. Frequency distribution of non-metallic inclusions in steels teemed at the usual and accelerated rates are shown in Fig 1. It was found that an increase in the teeming rate by 2 to 2.5 times in comparison with the normal practice improves the macrostructure of the upper part of the ingots and

An Experience in Accelerated Teeming of Steel

decreases the contamination of steel by non-metallic inclusions. However, with increasing teeming velocity the number of cracks on the ingots sharply increases. The formation of hot cracks depends to a large extent on the metal temperature and its chemical composition (Fig 2). In order to decrease the proportion of ingots with hot cracks, the influence of the shape of ingot faces on the phenomenon was tested. Three types of ingot moulds with convex, concave and corrugated faces were tested (Fig 3). The dependence of the proportion of ingots with longitudinal and transverse cracks on the velocity of teeming and profile of ingot moulds is shown in Fig 4 and 5 respectively. It was found that casting into moulds with corrugated faces gave the best results. It is concluded that by increasing teeming velocity so as to obtain a clear surface of the metal in the moulds during teeming and using ingot moulds with corrugated faces, an improvement in the micro-

An Experience in Accelerated Teeming of Steel

structure of ingots and the yield of good metal can be obtained. There are 5 figures and 6 Soviet references.

Card 3/3

18 (7)

AUTHORS: Bakumenko, S. P., Gulyayev, B. B. SOV/32-25-5-36/56

TITLE: New Method for the Production of Prints of the Macrostructure (Novyy sposob polucheniya otpechatkov makrostruktury)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 5, pp 617- 618 (USSR)

ABSTRACT: A new method for the production of prints of the macrostructure without distortions is suggested. A printing color is applied to the templet, and the print is then applied to the paper (Fig 1). The print may be made with the hands or a machine. In the case of larger dimensions the latter process is more favorable as machine-made prints are qualitatively better. The taking of prints from polished and not cut templets leads to a deterioration of quality (Fig 2). For the purpose of taking prints of larger dimensions (700 x 920 mm) a platen machine of the type DSP turned out to be most favorable. There are 2 figures.

ASSOCIATION: Izhevskiy metallurgicheskiy zavod (Izhevsk Metallurgical Plant)

Card 1/1

S/133/61/000/007/001/017
A054/A129

AUTHORS: Bakumenko, S. P., Vysotin, S. G., [illegible], Verkhovtsev, E. V., Candidate of Technical Sciences, [illegible], A. M., Engineer, Gulyayev, B. B., Doctor of Technical Sciences

TITLE: Heating ingot heads by exothermic mixtures

PERIODICAL: Stal', no. 7, 1961, 590 - 598

TEXT: In the Izhevskiy metallurgicheskiy zavod (Izhevsk Metallurgical Plant) tests were carried out to determine the optimum composition of exothermic mixtures used for heating ingot heads; to establish the shape of the ingot head and the method of feeding the mixtures. Two major types of mixtures were studied: conventional types used elsewhere and those developed in the IMZ. The latter were tested in three variants: a) containing 75% ferrosilicon, sodium-saltpeter + sand or saltpeter + calcined lime, manganese ore + lime; b) containing aluminum with saltpeter and lime, cinder + sand, iron ore + lime; c) containing calcium silicate with cinder + lime, iron ore + lime. The tests showed that saltpeter has the highest oxidizing effect, disintegrating already at 300°C and oxidizing aluminum, calcium-silicate and even silicon. As to inflammability, the 75% ferrosilicon mix-

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APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103120020-2

Heating ingot heads by exothermic mixtures

S/133/61/000/007/001/017
A054/A129

tures containing saltpeter are, therefore, better than those made with ferrooxides (smoking mixtures). Mixtures consisting of ferro-oxides and aluminum have a high exothermic effect, but only when the aluminum content is between 10 - 20 %, while the high ferro-oxide content results in the formation of white spots. A suitable composition can be obtained with calcium silicate, displaying a high inflammability both with ferro-oxides and saltpeter, thus they can be made "non-smoking", while the high calcium silicate content maintains the reducing atmosphere which in turn prevents the formation of white spots. In order to establish the optimum method of feeding the mix into the ingot head, it was partly introduced in one layer (as done in the zavod Serp i Molot - Sickle and Hammer Plant) and in two layers (as in the Vitkovitskiy plants; Abstracter's note: Czechoslovakia), using the mixtures of these two plants (70[illegible]C - 70F20S and [illegible] - 35F15SK20S). A better macrostructure was obtained by applying the mix in two layers. In the subsequent tests only this method was used therefore. Enlarging the ingot head to 18% when using exothermic heating increases the number of sub-skin defects. The head should therefore not be more than 13%. In order to define the optimum shape of the ingot head, four inserts were tested: a double-conical one with a volume of 12.5% ("A", on a 700 kg ingot) and three square inserts ("B", "C", "D", on 3.5 ton

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Heating ingot heads by exothermic mixtures

S/133/61/000/007/001/017
A054/A129

ingots) with volumes of 13%, 13.4%, and 13.5%, having a conicity of 10.5, 18.5 and 24%, respectively. The optimum chemical homogeneity in the metal was obtained with the square insert having 10.5% conicity. In order to select the optimum heat-insulating substance, ash-drift, cupola-furnace ash, graphite, lime and mica flakes were tested. Their analysis (table 4) shows that the effect of the heat-insulating material depends, besides its actual insulating capacity, also on the ingot weight. In large ingots the best effect was obtained with ash, graphite and cupola-furnace ash, (i.e. substances with a low heat conductivity and low density). The smaller the ingot-weight, the less important is the insulating substance, because the solidification period of the ingot is nearly as long as the heat-insulating substance remains active. In spite of this, insulating materials should also be used in these ingots, because they improve the effect of the exothermic mixture. The chemical effect of heat-insulating substances was determined by the distribution of C, P, S and Si in templates and in the ladle. These tests were made with graphite (C: 89%), ash (C: 45%) and sand. The highest C and Si-liquation was found for ingots in which sand was used. When the mix is applied in a double-layer, at least 1.5 - 2.0 kg/t exothermic mix should be used for 3.0 - 3.5 t ingots and 1.0 - 1.5 kg/t for 0.7 t ingots, while ash should be used in an amount of 1.0 - 1.5 kg/t. The effect of the 11 selected exothermic mixtures was measured by the

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Heating ingot heads by exothermic mixtures

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A054/A129

duration of their burning and their pyrometric properties (Table 7). According to these parameters exothermic mixes can be divided into 4 groups: 1) Л14 (L14) and Л28У (L28U) types, containing crushed charcoal and coke duff. They do not display visible pyrometric effect, and have a fairly high heat-insulating capacity. 2) 15СК15С (15SK15S) burns brightly and quickly but is not more efficient than type 1) mainly because it is employed in combination with ash. 3) $15A15C_2$ ($15A15S_2$) and $15A15S_3$ are the least efficient, while 4) $15A15S_1$, 70F20S and 50СК50О (50SK500) are between group 1) and 2); they display low and medium reaction rates and ensure a dense macrostructure with a cropping of 10 - 11%. The higher the pyrometric effect of the mix and the shorter time it is burning, the weaker is the heating of the ingot head. Therefore, in order to make the exothermic mix more effective, either delaying agents should be used to extend the burning time of the mix or secondary exothermic effects should be developed (when using, for instance, 50SK500, 70F20S). When these mixes with a higher Si-content are applied, the first phase of heating (during which the mixture is burning) is followed by the second phase of heating, during which silicon is diffused in the metal pores and the exothermic process takes place on account of silicon diffusion in the metal. Of the 11 test mixes the best results were obtained with $15A15S_1$, 50SK500 and 70F20S. They en-

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Heating ingot heads by exothermic mixtures

sured the highest degree of homogeneity and the densest macrostructure. When these mixes were used in combination with ash as heat-insulating agent, the head crop could be reduced to 10 - 12%. The use of the above-mentioned mixes and the 35F15SK20S type prevent the formation of white spots. With regard to hygienic conditions mixtures containing saltpeter can be used if special protective measures are taken. The 15A15S$_1$ mix requires adequate ventilation. The optimum mixture was found to be the 50SK500 type, being the cheapest (10.5 kp./kg), containing the minimum of components and being "non-smoking". When using for large ingots, its composition can still be improved when replacing 5 - 15% of the calcium silicate by 75% ferrosilicon. The tests were carried out with the participation of Ye. P. Gushin, V. I. Sarafanov, N. Ye. Vasil'yev, D. P. Oparin, Ye. G. Saprykin, A. I. Savintsev, M. N. Zhuravlev. There are 4 figures, 7 tables and 8 Soviet references.

ASSOCIATION: Izhevskiy metallurgicheskiy zavod (Izhevsk Metallurgical Plant)

Card 5/7

S/130/61/000/009/002/005
A006/A101

AUTHORS: Bakumenko, S. P.; Svistunov, A. M.; Verkhovtsev, E. V.

TITLE: Steel casting under a protective mica layer

PERIODICAL: Metallurg, no. 9, 1961, 17-18

TEXT: The effect of steel casting under a mica layer on the quality of open-hearth steel was investigated by syphon casting of 0.7 to 3.5 ton steel ingots. Mica was placed into the molds either prior to teeming or when the metal appeared in the molds. In the former case the molds were painted over their whole height with a mixture of resin and coal tar varnish, 50% each; then the bottom hole of the mold was covered with a paper sheet and mica was poured in. In the latter case mica was introduced after the beginning of teeming. Mica consumption per one ton of steel was 1.0 - 1.5 kg. The ingots were inspected and it was found that steel teeming under a mica layer improved the surface of ingots and sharply reduced the number of ingots requiring dressing. An examination of the macrostructure showed that in the upper section of the ingot distortions of the crust and subcrust defects were almost absent. As to the contamination of steel by non-metallic impurities it was found that it did not exceed the contamin-

Card 1/2

Steel casting under a protective mica layer

S/130/61/000/009/002/005
A006/A101

ation of the steel produced by conventional castings. The investigation proved that the addition of mica into the molds assured teeming of steel without crust formation and an improved quality surface and macrostructure of the ingots. There are 1 figure and 1 table.

Card 2/2

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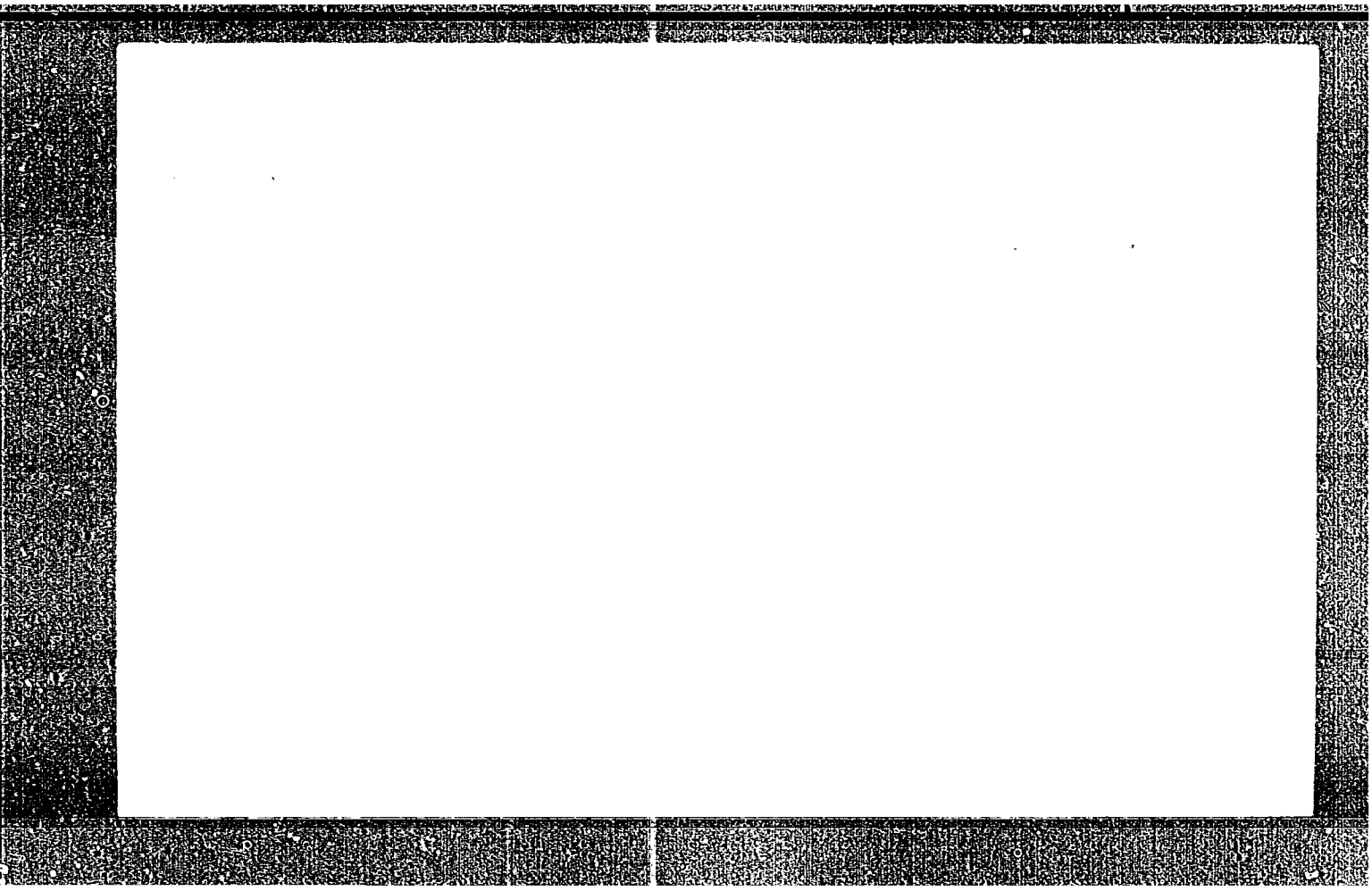

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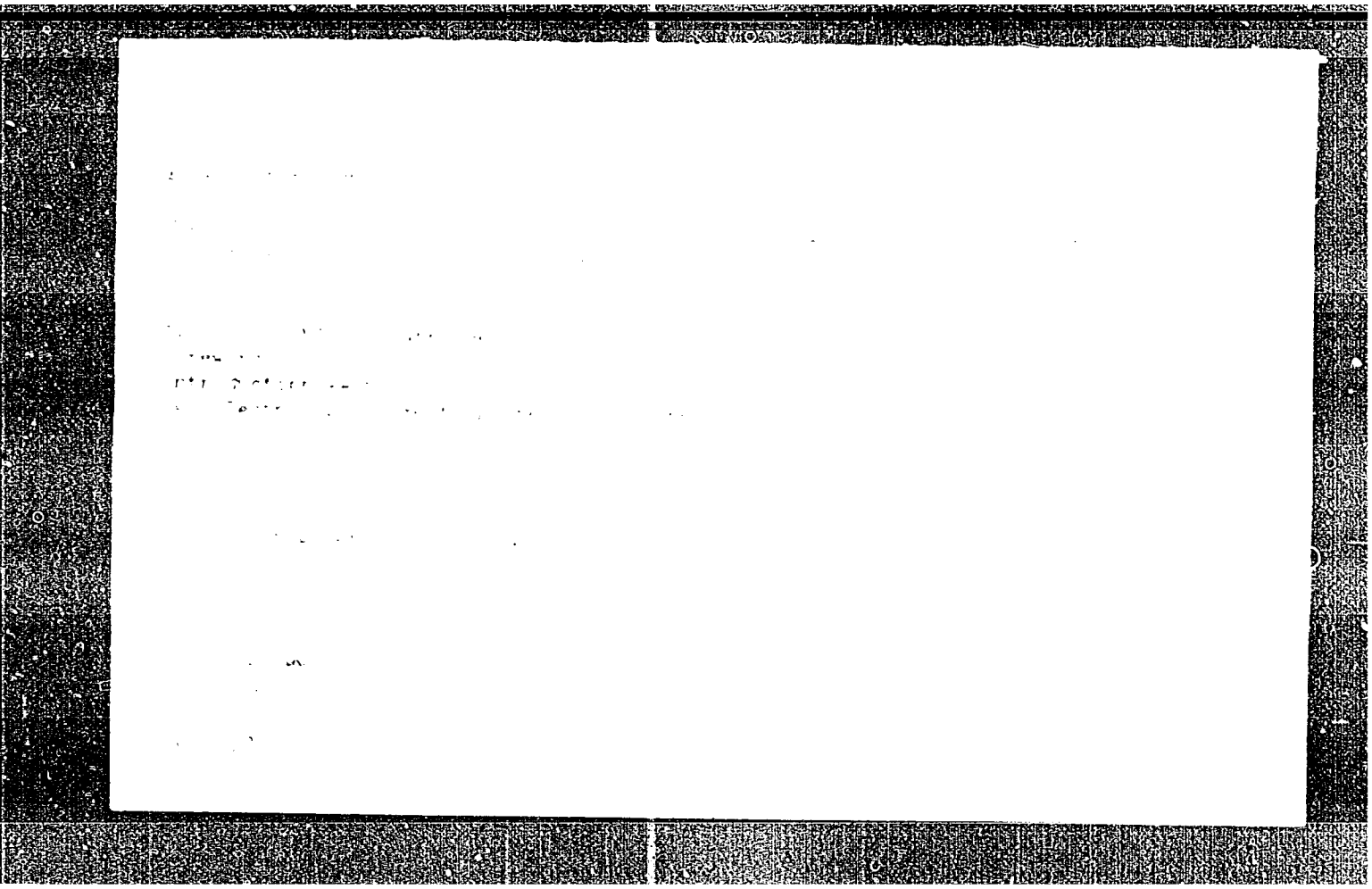

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BAKUMENKO, S.P., inzh.; MIKHAYLOV, A.S., inzh.; TOLKACHEV, A.F., inzh.

Double tapered ingots. Stal' 24 no.12:1110-1112 D '64.
(MIRA 18:2)

1. Izhevskiy metallurgicheskiy zavod.

BAKUMENKO, S.P., inzh.

Taper of ingots and ingot molds. Stal' 25 no.4:327 Ap '65. (MIRA 18:11)

1. Izhevskiy metallurgicheskiy zavod.

BAKUMENKO, T.L.; FEDORENKO, N.P.; SHCHUKIN, Ye.P.

Polystyrene production economics. Plast.massy no.5:40-44 '61.
(MIRA 14:4)
(Styrene)

BAKUMENKO, T.L.; FEDORENKO, N.P.; SHCHUKIN, Ye.P.

Economic aspects of the industry of polymerization plastics. Plast.-massy no.9:52-56 '61. (MIRA 15:1)
(Plastics industry) (Polymers)

BAKUMENKO, T.L.; FIKHMAN, V.D.

Economic aspect of the manufacture of polyvinyl chloride fibers. Khim. volok. no.5:69-71 '63. (MIRA 16:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo volokna.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103120020-2

BAKUMENKO, T.L.; PROSKURINA, L.G.; ZVENYATSKAYA, M.L.; FISHMAN, K.Ye.

Loose nylon fiber dyeing. Khim. volok. no.5:70-72 '65.
(MIRA 18:10)

1. VNIISV (for Bakumenko, Proskurina). 2. Kiyevskiy kombinat iskusstvennogo i sinteticheskogo volokna (for Zvenyatskaya, Fishman).

BAKUMENKO, T.L.; YEVSYUKOVA, M.A.

Effect of the raw material factor on the economics of the production of polyacrylonitrile fibers. Khim. volok. no.6:60-63 '65.
(MIRA 18:12)

1. VNIISV.

BAKULENKO, T. D. (Col.) Vet. Corps.

"Poisoning of Horses Due to the Bites of Mites"

Sect. V - Tests and Practice, p. 244 (Tab Con) of
"Bolezni Loshadey (Equine Diseases), Sbornik Rabot (Collection of Work)" 1947
compiled by A. Yu. Branzburg and A. Ya. Shapiro, under Editorship of A. M. Laktionova,
State Press for Agric. Lit.

Described as a collection of works on epizootiology, surgery, therapy, and lab and clinical practice in the treatment of equine diseases. In the majority of cases, previously published in the journal Veterinariya or in one of the manuals issued by the Vet. Admin. of the Armed Forces USSR.

-W-9922, 1 May 1950, p 5

m

USSR/Physical Chemistry - Electrochemistry. B-12

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3965.

Author : T.T. Bakumenko, O.M. Poltorak, N.I, Kobozev.
Inst : Ukrainian Scientific Research Institute of Polygr. Industry.
Title : Study of State of Polarized Cathodes in Region of Hydrogen Overstress by Potential Drop Curves.

Orig Pub: Sb. tr. Ukr. n.-i. in-ta poligr. prom-sti, 1956, 4, 135-155.

Abstract: The potential drop after the switching off of the polarizing current on cathodes of pure W, Mo, Ta, Pt, Cu, Pd, Fe, Hg, Pb and Sn and on cathodes of Pt, Pd, Fe poisoned with corrosive sublimate in 0.2 and 0.5 n. HCl solutions was studied. The dependences of (η , log i) under stationary conditions are described by Tafel's equation for all the studied cathodes. The characteristics of the potential drops are presented in graphs of ($\Delta\eta$, log $i_0 t$), where t is the drop duration.

Card : 1/2 -8-

USSR/Physical Chemistry - Electrochemistry. B-12

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3965.

These curves of the majority of cathodes (W, Mo, Ta, Pd, Cu, for a short time polarized Pd) are situated above the theoretical curve (i.e., the curve of discharge process of a cnndenser, the capacity of which equals the capacity of the double layer), the curves of some cathodes (Pb, Sn) are near the theoretical, and sometimes they are below the latter (Pd polarized for a long time, Pd poisoned with corrosive sublimate, Pt, Fe). Basing on the analysis of experimental dependences of ($\Delta \varphi$, log $i_0 t$) and their comparison with theoretical, the authors arrive at the conclusion that the presence of atomic hydrogen on polarized cathodes in concentrations above the equilibrium concentrations is the most usual case.

Card : 2/2 -9-

BAKUMENKO, T. T.

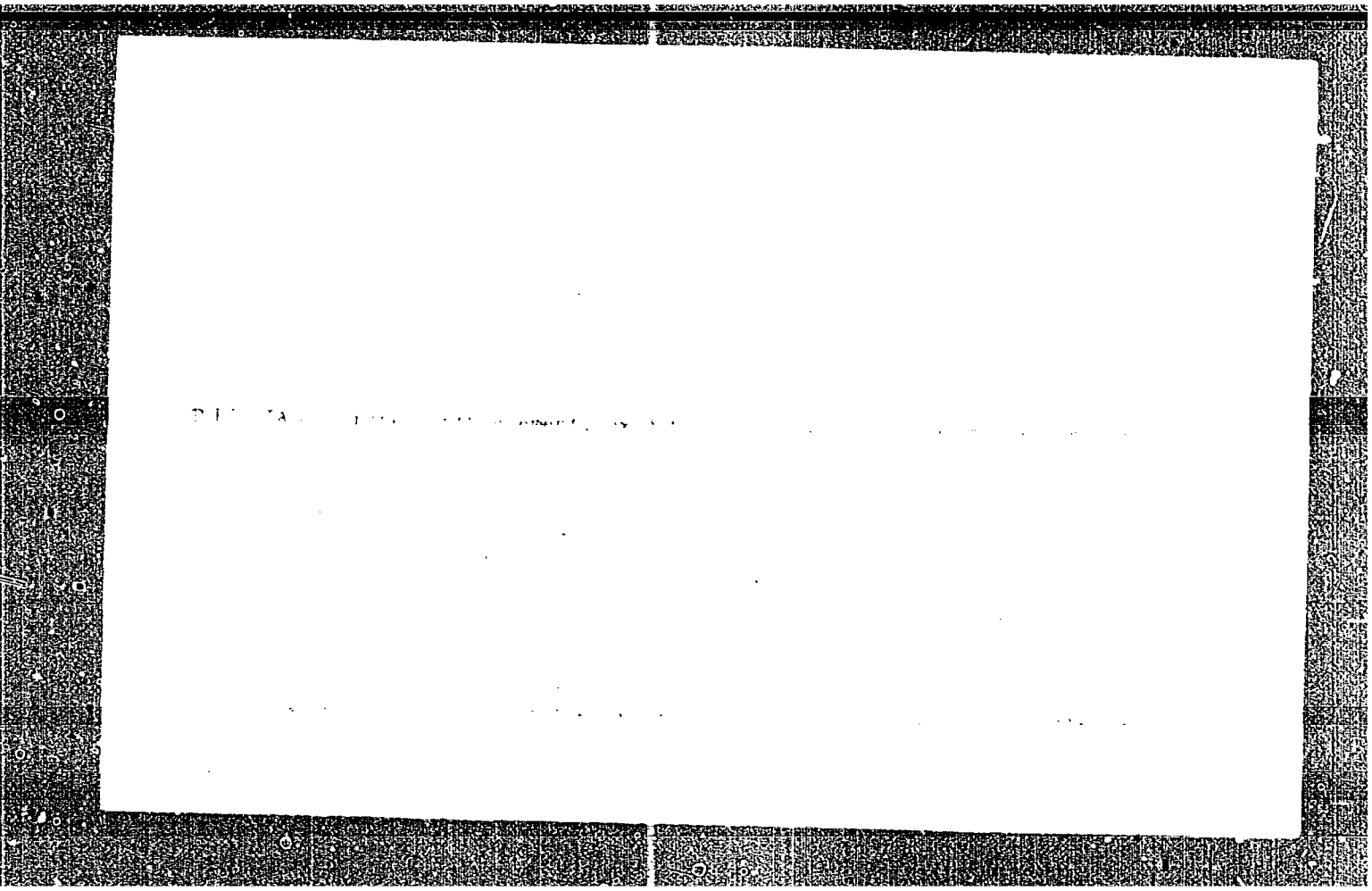
BAKUMENKO, T. T. "A Study of the Structure of Polarized Cathodes in Terms of Potential-drop Curves." Moscow Order of Lenin and Order of Labor Red Banner State U imeni M. V. Lomonosov. Chemistry Faculty. Chair of Physical Chemistry. Laboratory of Catalysis and Gas Electrochemistry. Moscow, 1956. (Dissertation for the Degree of Candidate in Chemical Science)

So: Knizhnaya Letopis', No. 19, 1956.

BAKUMENKO, Tamara Timofeyevna; ROYTER, V.A., akademik, otv. red.; POKROVSKAYA, Z.S., red.; KADASHEVICH, O.A., tekhn. red.

[Catalytic properties of rare and rare-earth elements]Kataliticheskie svoistva redkikh i redkozemel'nykh elementov. Kiev, Izd-vo Akad.nauk USSR, 1963. 99 p.
(MIRA 16:4)

1. Akademiya nauk UkrSSR (for Royter).
(Metals, Rare and minor) (Rare earths) (Catalysis)



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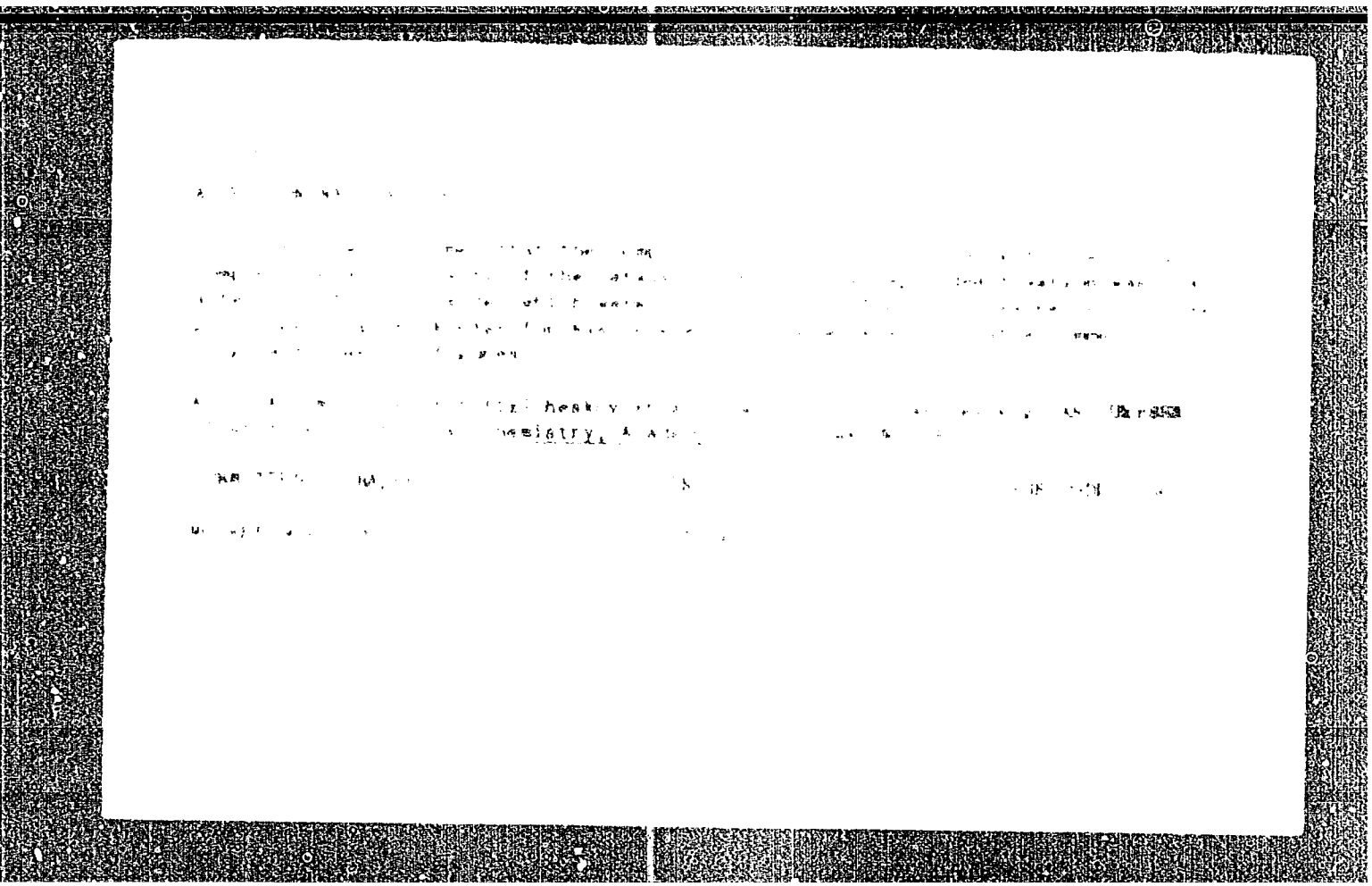


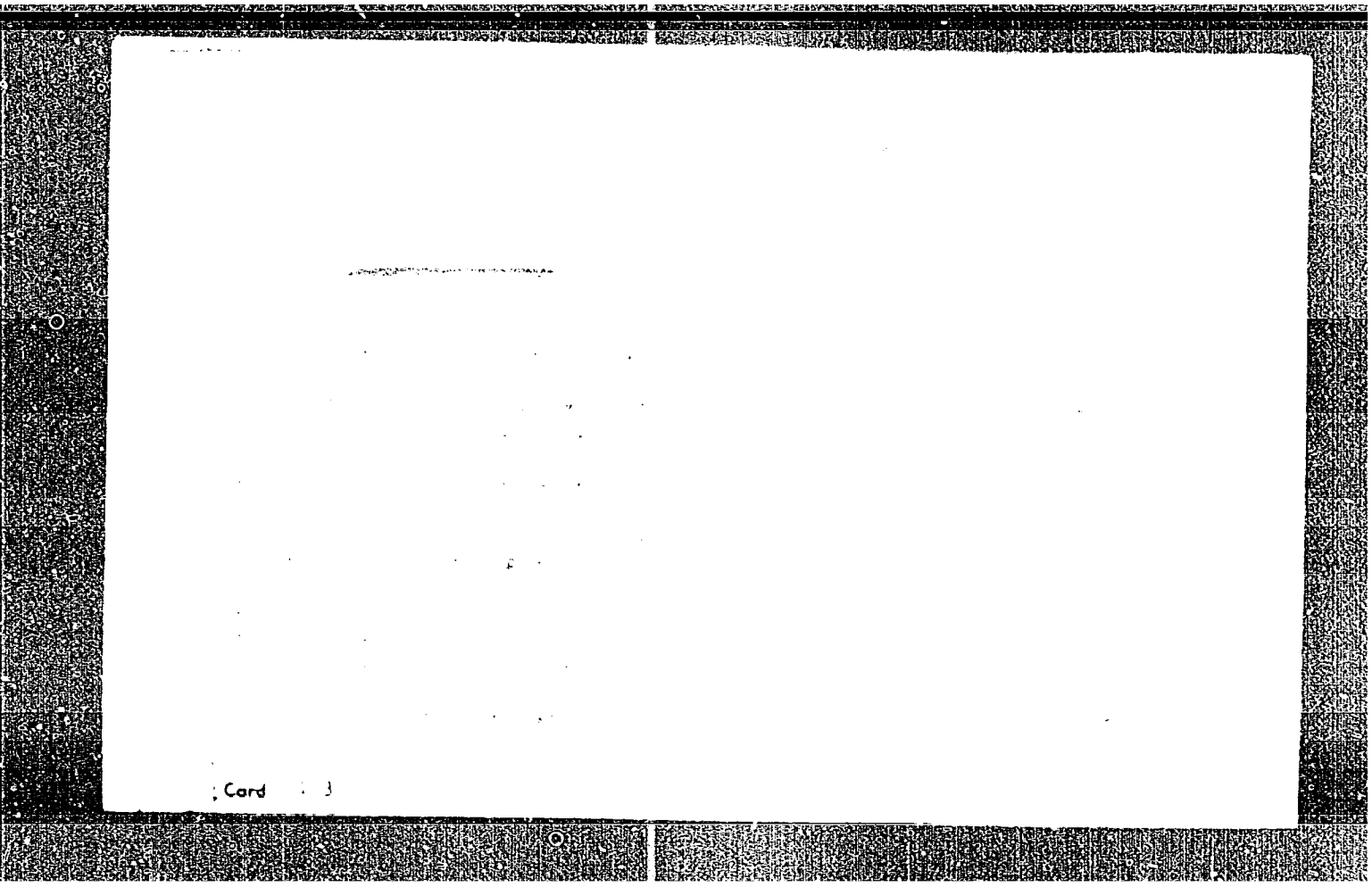
TITLE: On the parameters of a quantum [illegible]

SOURCE: Optika [illegible]

separated from the "dark" background of the counter. Assuming the latter to be

BAKUMENKO, V.L.; KOZINA, G.S.; FAVORIN, V.N.

Electroluminescent sublimated films of the luminophor ZnS-Cu, Mn. Opt. i spektr. 15 no.4:486-489 O '63. (MIRA 16:11)



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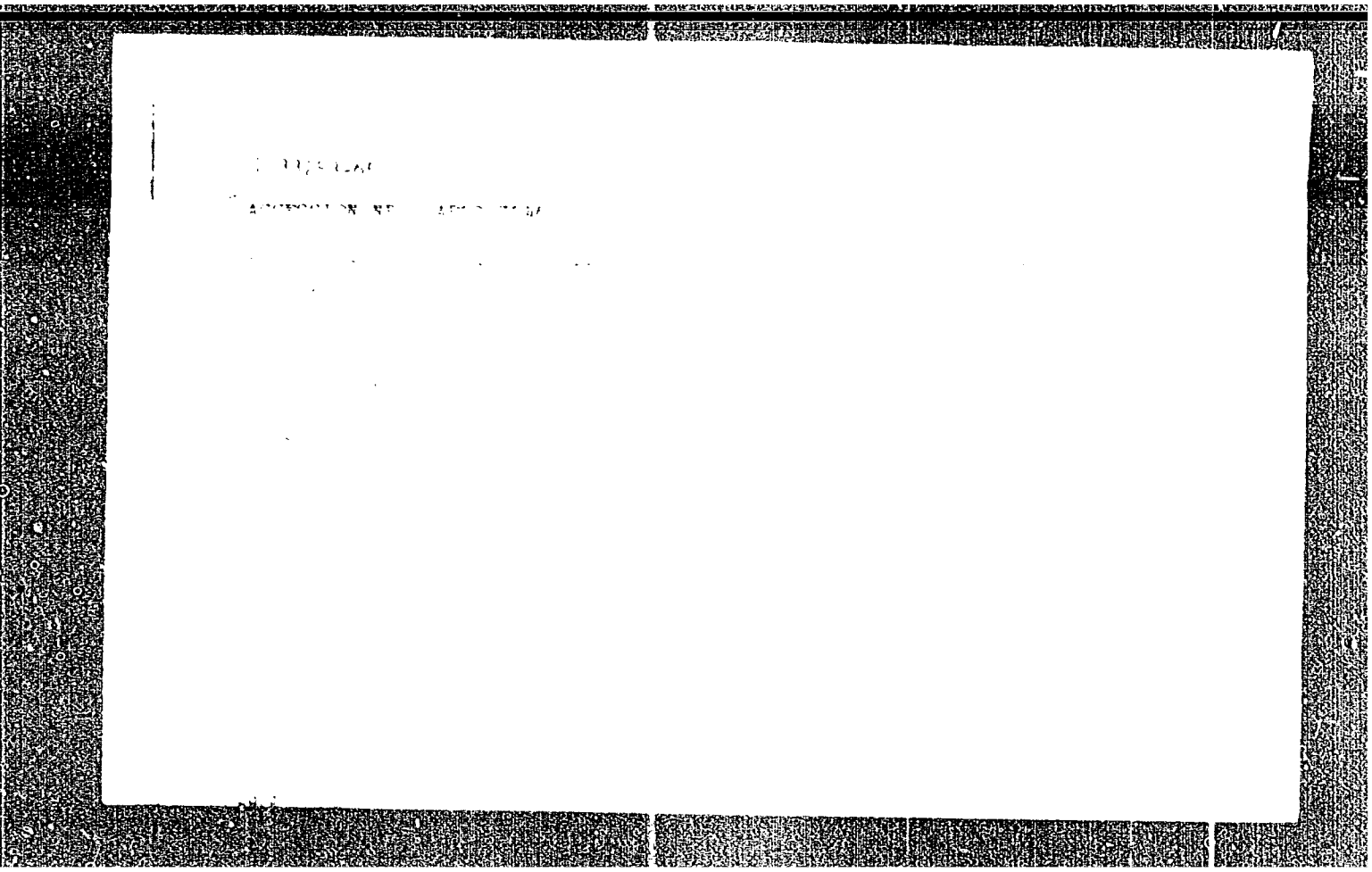
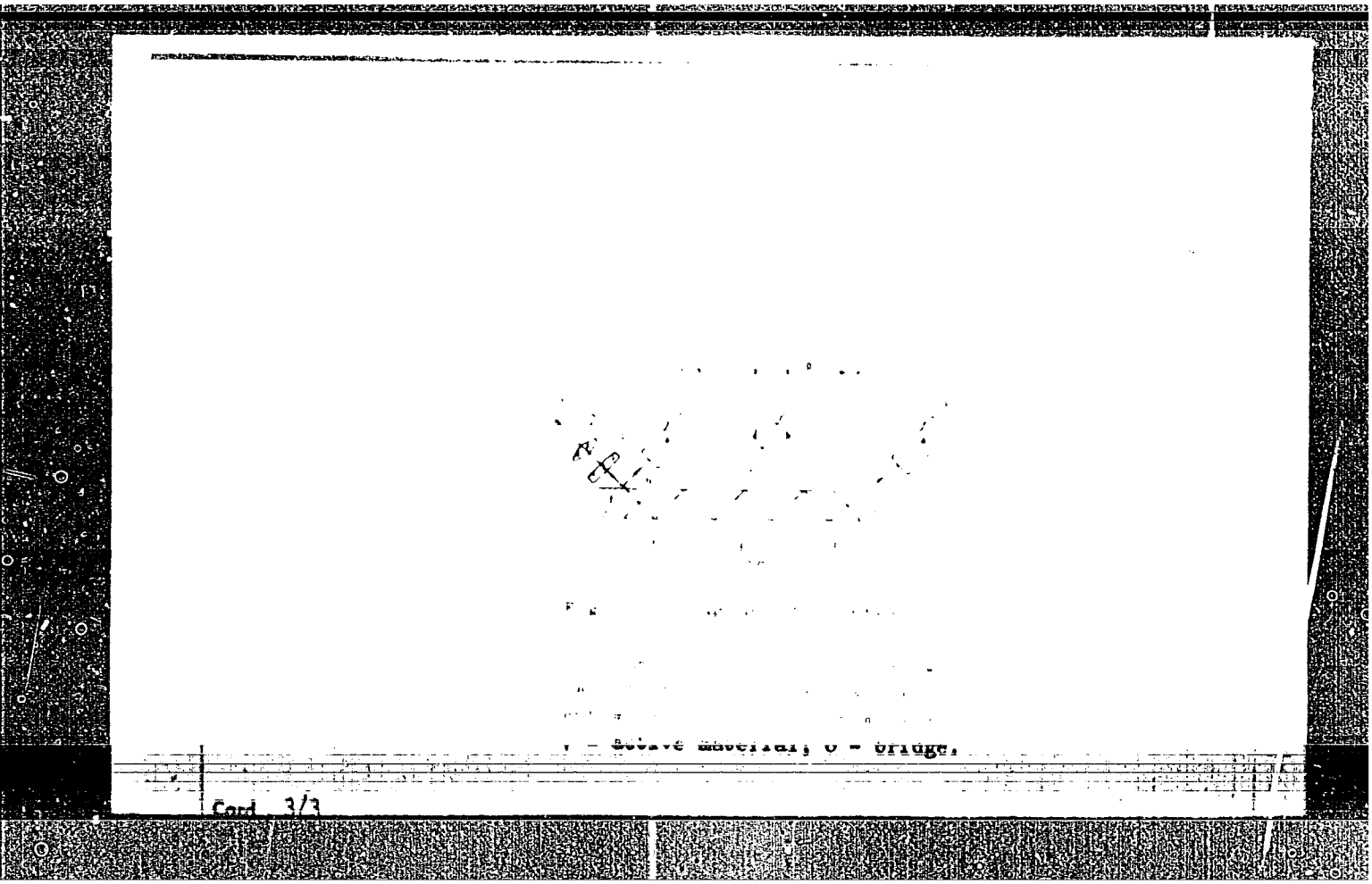




Card 3/3

L 44434-66 EWT(m)/EWP(t)/EWP(b) LIP(c) JD

ACC NR: AP5017903 UR/0051/65/019/001/0132/0132

621.375.9:53

AUTHOR: Bakumenko, V. L.; Kozina, G. S.; Kostinskaya, T. A.; Lupachev, Ye. P.; Rvacheva, Ye. S.

TITLE: Stimulated emission of praseodymium in calcium tungstate

SOURCE: Optika i spektroskopiya, v. 19, no. 1, 1965, 132, and both sides of insert facing p. 132

TOPIC TAGS: stimulated emission, praseodymium, calcium compound, solid state laser

ABSTRACT: The authors report that laser oscillation has been obtained in calcium tungstate crystals grown by the Czochralski method and activated with trivalent praseodymium ($CaWO_4$-Pr^{3+}). The oscillations were studied in cylindrical samples about 5 mm in diameter and 40 mm long, with plane-parallel silvered ends. The transmissivity of the semitransparent end was 0.5%. The pump source was a pulsed xenon lamp with maximum flash intensity 6 kJ). The stimulated emission was observed at a wavelength of 1.047 μ, corresponding to the $^1G_4 \rightarrow {}^3H_4$ transition and the temperature of liquid nitrogen. The threshold pump energy for this line was 12.8 J. The crystal output emission was recorded with a photomultiplier (FEU-28) feeding a pulse oscilloscope (OK-17M). The oscillograms exhibit a spike-like structure, with a peak energy of 30 W corresponding to the maximum spike amplitude. The emitted energy was 2 mJ. Orig. art. has: 3 figures.

Card 1/2

L 44434-66

ACC NR: AP5017903

ASSOCIATION: None

SUBMITTED: 29Apr64 ENCL: 00 SUB CODE: OP, EC

NR REF SOV: 000 OTHER: 001

Card 2/2

L 1423-66 EWT(1) IJP(c)

ACCESSION NR: AP5021145 UR/0386/65/002/001/0027/0030

AUTHOR: Bakumenko, V. L.; Vlasov, A. N.; Kovarskaya, Ye. S.; Kozina, G. S.; Favorin, V. N.

TITLE: Step excitation of fluorescence in Er^{3+}-activated $CaWO_4$

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 2, no. 1, 1965, 27-30

TOPIC TAGS: quantum counter, infrared quantum counter, quantum action, fluorescence, erbium doped oxide, erbium, radiation summation

ABSTRACT: Infrared quantum counter action has been discovered in Er^{3+}-doped (0.75%) $CaWO_4$ similar to that recently described by Brown and Shand in Er^{3+}-doped fluoride lattices (M. R. Brown, W. A. Shand, Phys. Rev. Lett., 12, 367, 1964). Fluorescence appeared at wavelengths of about 543 mμ when the wavelength of the first exciting flux corresponded to 1.5 μ and that of the second to 710—850 mμ. The effect can be produced only by the simultaneous application of the two fluxes. The same action was observed by the authors in Er^{3+}-doped (0.5%) $PbMoO_4$. According to the authors the effect may lead to the transformation of infrared radiation into visible light. Orig. art. has: 2 figures. [ZL]

Card 1/2

L 1423-66
ACCESSION NR: AP5021145

ASSOCIATION: none

SUBMITTED: 20May65 ENCL: 00 SUB CODE: SS,OP

NO REF SOV: 001 OTHER: 002 ATD PRESS: 4099

Card 2/2 OP.

L 10206-66 EWT(l)/EWT(m)/EPF(c)/EWG(m)/T/EWP(t)/ETI IJP(c) JD/HW/JG

ACC NR: AP6000024 SOURCE CODE: UR/0368/65/003/005/0434/0440

AUTHOR: Bakumenko, V.L.; Vlasov, A.N.

ORG: None

TITLE: Investigations of the spectra of fluorescence and absorption of 3-valent ions of praseodymium in a calcium tungstate grating

SOURCE: Zhurnal prikladnoy spektroskopii, v. 3, no. 5, 1965, 434-440

TOPIC TAGS: spectral energy distribution, fluorescence, fluorescence spectrum, praseodymium, calcium compound, tungstate

ABSTRACT: A study is made of single crystals of calcium tungstate activated with praseodymium, grown from a melt according to the Chokhral'skiy method. The concentration of praseodymium in the initial melt amounted to 1 at.%. The activator was introduced as a double salt $NaPr(WO_4)_2$. The lifetime of certain fluorescent states is measured. The authors observed the effect of the excitation of the blue fluorescence (near 490 nm) by an emission in the red or the infrared regions. This is explained by the excitation of the $^3P_0$ level by sequential absorption of two long-wave photons, analogous to the phenomenon observed by M.R. Brown and W. A. Shand (Phys. Rev. Letters, 11, No. 8, 366, 1963) in the crystals of fluorides activated with praseodymium. A diagram of energetic levels is constructed, and an

Card 1/2 UDC: 535.34:535.372

L 10305-66
ACC NR: AP6000024

12

estimate is made of quantum yield and probabilities for the number of transitions. The results are of a preliminary nature; work in this direction is being continued. In conclusion, authors express their deep gratitude to Ye. S. Kovarskaya for the preparation of the single crystals, and to T. A. Kostinskaya and T. V. Aver'yanova for permission to use the fluoresence spectra taken by them with an ISP-51 instrument. Orig. art. has: 3 figures and 3 tables.

SUB CODE: 20, 07 / SUBM DATE: 03Feb65 / ORIG REF: 002 / OTH REF: 005

Card 2/2

ZAV'YALOV, V.V., mayor tekhnicheskoy slushby; BAKUMENKO, V.V., starshiy inzhener-kapitan

Pulse motors can last longer. Vest.Vozd.Fl. no.7:84-85 Jl '60. (MIRA 13:7)
(Airplanes--Radio equipment)

BAKUMSKAYA, YE. I.

BAKUMSKAYA, YE. I.--"Complex Formation and Exchange Decomposition in Melts of the Chlorides and Sulfates of Cadmium and the Alkaline Metals." (Dissertation for Degrees in Science and Engineering, Defended at USSR Higher Educational Institutions) Rostov-on-Don State U imeni V. M. Molotov, Chair of General and Inorganic Chemistry, Rostov-on-Don, 1955.* Chemical Sciences

SO: Knizhnaya Letopis' No. 37, 10 September 1955.

Bakumskaya, Ye. L.

USSR/Physical Chemistry. Thermodynamics, Thermochemistry, B-8
Equilibria, Physical-Chemical Analysis, Phase Transitions.

Abs Jour: A. G. Bergman, Ye. L. Bakumskaya
Inst : -
Title : Formation of Complexes and Double Decomposition in Mutual System of Chlorides and Sulfates of Sodium and Cadmium.

Orig Pub: Zh. obshch. khimii, 1955, 25, No 13, 2405-2414

Abstract: The system Cd, Na // Cl, SO_4 studied by the visual-polythermal method refers to the class of reversible reciprocal adiagonal systems. The reciprocal system has 8 basic crystallization fields: Na_2Cl_2,$CdCl_2$, $CdSO_4$, Na_2SO_4, $2NaCl.CdCl_2$, $Na_2SO_4.CdSO_4$, $Na_2SO_4.3CdSO_4$ and $3Na_2SO_4.CdSO_4$. The composition and temperature of non-variant points are given. The reactions taking place in the system are expressed by following equations: $2Na_2Cl_2 + CdSO_4 = Na_2Cl_2.CdCl_2 + Na_2SO_4$; $Na_2Cl_2 + 2CdSO_4 = CdCl_2 + Na_2SO_4.CdSO_4$; $Na_2Cl_2 + CdSO_4 = Na_2SO_4 + CdCl_2$. Contrarily to earlier data (Calçagni, Marotta, Gazz, 1914, 44, No 1, 487), an additional transformation was estab-

Card 1/2

USSR/Physical Chemistry. Thermodynamics, Thermochemistry, B-8
Equilibria, Physical-Chemical Analysis, Phase Transitions.

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14694

Abstract: lished at 736° and 43.5 percent of $CdSO_4$ in the system Na_2SO_4-$CdSO_4$ corresponding to the formation of $3Na_2SO_4$. -$CdSO_4$.

Card 2/2

Poland /Chemical Technology. Chemical Products and Their Application I-10

Pesticides

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31351

Author : Bakuniak Irena

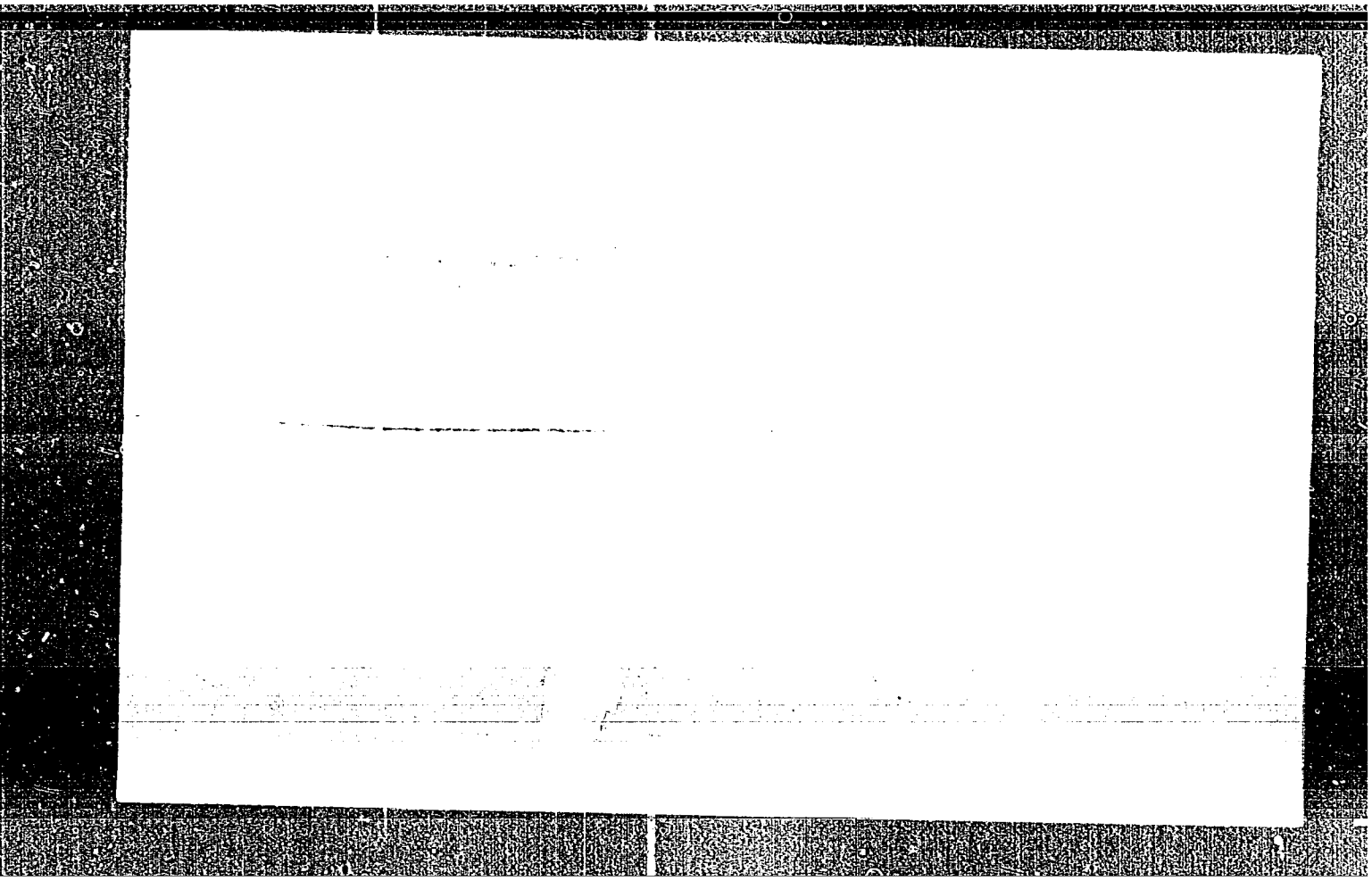
Inst : Institute of the Industry of Bast Fibers

Title : Chemical Control of Ficotyledonous Weeds in Flax

Orig Pub: Przem. wlokienniczy, 1955, 9, No 10, Biul. Inst. Przem. Wlokien Lykowych, 13.

Abstract: Tests were carried out on dicotyledonous weed control in flax by means of herbicidal preparations containing dinitro-cresol (I), 2,4-D and 2M-4X (II). Best results were obtained on using a mixture of I and II.

Card 1/1



APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103120020-2"

Category: USSR / Physical Chemistry
Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical analysis. Phase transitions. B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29942

Author : Bakumskaya Ye. L., Bergman A. G.
Inst : not given
Title : Ternary System of the sulfates of Sodium, Potassium and Cadmium

Orig Pub: Zh. neorgan. khimii, 1956, 1, No 5, 1035-1041

Abstract: The ternary system of Na_2SO_4 (I) - K_2SO_4 (II) - $CdSO_4$ (III) has been studied by the visual-polythermal method. The formation was ascertained of two compounds, of composition 3:1 and 1:3 of the binary system I - III, which melt with decomposition, respectively, at 736° and 43.5% III, and 746° and 29.5% I. In the ternary system I-II-III a study has been made of 18 internal sections. Surface of liquidus represents 7 fields: solid solutions of I-II, pure III, and five compounds, the fields of which occupy up to 30.62% of the area. In the system is found a single, triple eutectic point at

Card : 1/2

Category: USSR / Physical Chemistry
Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical analysis. Phase transitions. B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29942

578° and 39% I, 18% II and 43% III, and five singular points. The assumption is made of the existence of an internal field of crystallization of a compound of supposed composition $2Na_2SO_4 \cdot K_2SO_4$, which is formed on decomposition of solid solutions of the sulfates of sodium and potassium, at 712°. The formation of this compound had already been reported before (RZhKhim, 1955, 25777). Ternary internal compound is absent. Triple eutectic point is lower by 306° than the melting point of the lowest-melting component -- I, which indicates the stability of complexes the fields of which converge at the triplepoint.

Card : 2/2

"The Ternary System Consisting of the Sulfates of Lithium, Sodium, and Cadmium," Zhurnal Neorganicheskoy Khimii, Vol 1, No 7, Jul 56, pp 1629-1637.

Rostov-na-Donu, Engineering-Construction Institute.

"Ternary System Consisting of the Sulfates of Lithium, Potassium, and Cadmium," Zhurnal Neorganicheskoy Khimii, Vol. 1, No. 9, Sep 1956, pp 2083-2092.

Rostov Engineering-Construction Institute.

USSR/ Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium. Physicochemical analysis. Phase transitions B-8

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11183

Author : Bergman A.G., Bakumskaya Ye.L.
Title : Exchange Decomposition, Complex-Formation and Polymorphism in Adiagonal Mutual System of Chlorides and Sulfates of Potassium and Cadmium.

Orig Pub : Zh. obshch. khimii, 1956, 26, No 3, 629-638

Abstract : Study of the mutual system K, Cd Cl, SO_4 (I). In the investigated binary systems K_2Cl_2-K_2SO_4 and K_2SO_4-$CdSO_4$ was revealed an additional transformation of K_2SO_4 at 856° the nature of which was not elucidated. In the K_2Cl_2-$CdCl_2$ system was ascertained a transformation of the complex $4KCl.CdCl_2$ at 392°. Fusibility diagram of mutual system I consists of eight basic crystallization fields converging at six non-variant points. In K_2SO_4 and $K_2SO_4.2CdSO_4$ fields are differentiated areas of α -, β-, γ - and α -, β -modifications. Complex formation in system I supresses the exchange reaction of low relative thermal effect. In accord with previously made deductions (Dombrovkaya O.S., Izv. sektora fiz.-khim. analiza IONKh AN SSSR, 1941, 14, 106) mutual system I is considered to

Card 1/2

USSR/ Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium. Physicochemical analysis. Phase transitions B-8

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11183

appertain to adiagonal semireversible system of zonal type. In contradistinction to the K, Zn Cl, SO_4 system (RZhKhim, 1954, 33878) no internal heterocompounds are formed in system I.

Card 2/2

BAKUMSKAYA, Ye.L.; KEROPYAN, V.V.; BERGMAN, A.G.

Ternary system formed by sodium, thallium, and lead sulfates.
Zhur. neorg. khim. 6 no.7:1652-1655 Jl '61. (MIRA 14:7)
(Sodium sulfate) (Thallium sulfate) (Lead sulfate)

BERGMAN, A.G.; BAKUMSKAYA, Ye.L.; KEROPYAN, V.V.

Ternary system of lithium, sodium, and lead sulfates. Zhur.neorg. khim. 7 no.3:621-624 Mr '62. (MIRA 15:3)
(Sulfates) (Systems (Chemistry))

BERGMAN, A.G.; KEROPYAN, V.V.; BAKUMSKAYA, Ye.L.

Ternary system consisting of lithium, thallium and lead sulfates.
Zhur.neorg.khim. 7 no.10:2447-2449 O '62. (MIRA 15:10)
(Lithium sulfate) (Thallium sulfate) (Lead sulfate)

BEREZINA, S.I.; BERGMAN, A.G.; BAKUMSKAYA, Ye.L.

Ternary reciprocal system consisting of fluorides and chlorides of lithium and potassium. Zhur.neorg.khim. 8 no.9:2140-2143 S '63.

Stable cross sections of the quaternary reciprocal system consisting of fluorides and chlorides of lithium, sodium, and potassium. 2144-2147 . (MIRA 16:10)

BAKUMSKAYA, Ye.I.; BERGMAN, A.G.; KERGYAN, V.V.

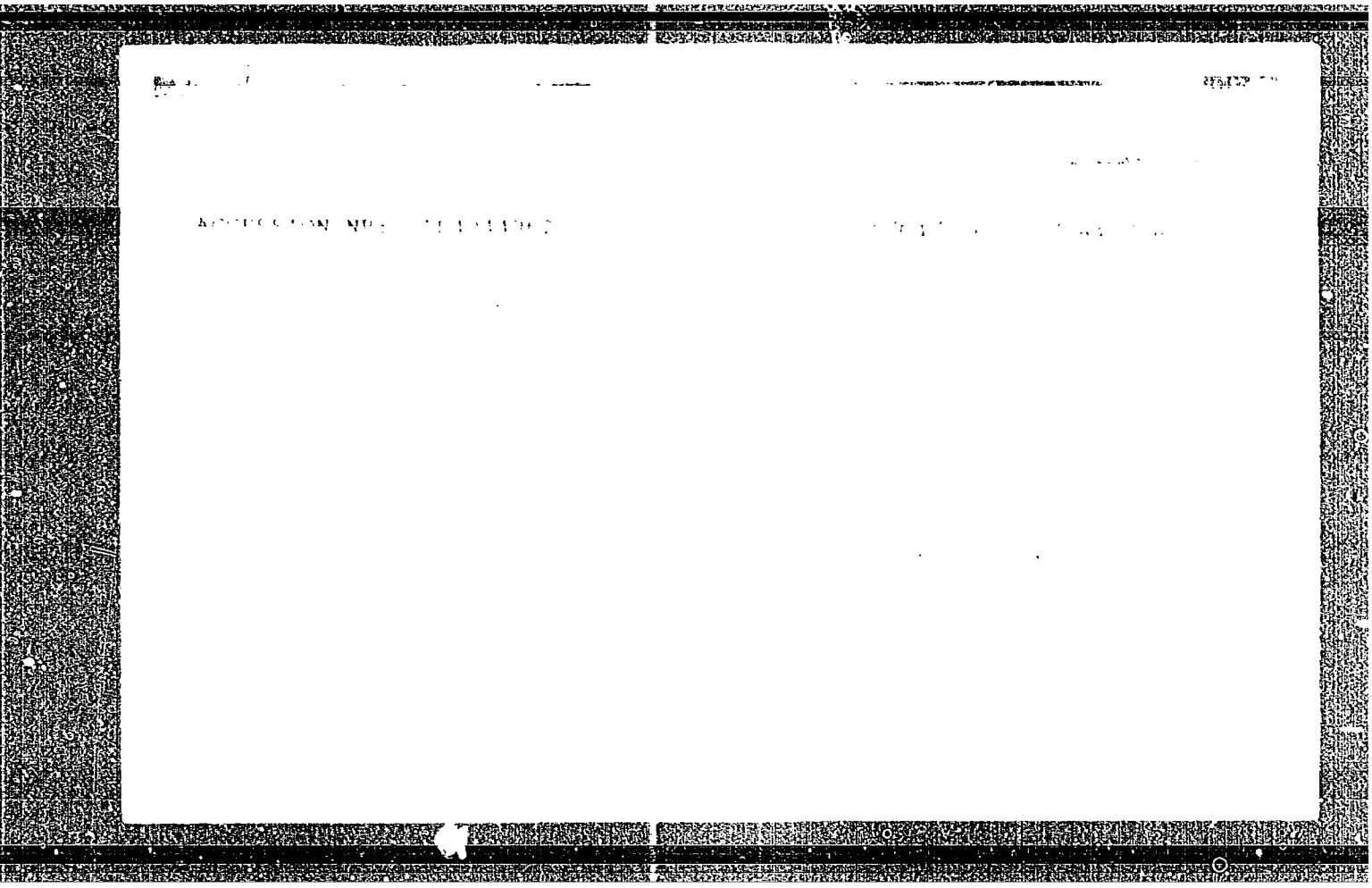
System consisting of the sulfates of potassium, thallium, and lead.
Zhur. neorg. khim. 8 no.12:2748-2750 D '63. (MIRA 17:9)

BUKIN, Mikhail Andreyevich; BIRGER, Izrail' Semenovich; MEDVEDEV, S.R., zasl. deyatel' nauki i tekhniki RSFSR, Laureat Gosudarstvennoy premii, prof., red.; BAKUN, A., red.; CHEPELEVA, O., tekhn. red.

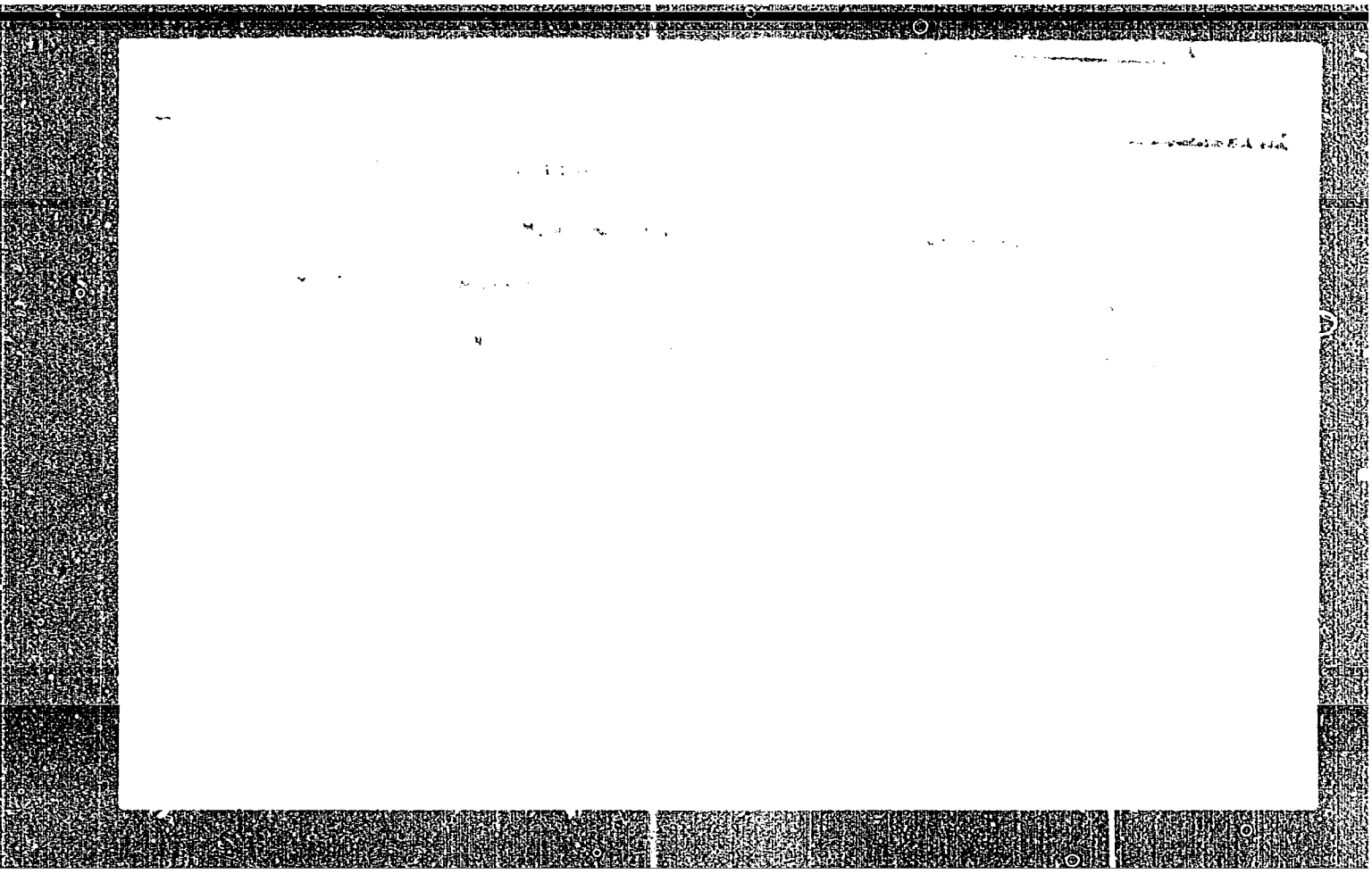
[Largest in the world; history of the construction of the Volga Hydroelectric Power Station (22d Congress of the CPSU)] Krupneishaia v Mire; k istorii sozdaniia Volzhskoi GES imeni XXII s"ezda KPSS. Moskva, Sotsekgiz, 1962. 225 p. (MIRA 16:4)
(Volga Hydroelectric Power Station (22d Congress of the CPSU))--Design and construction)

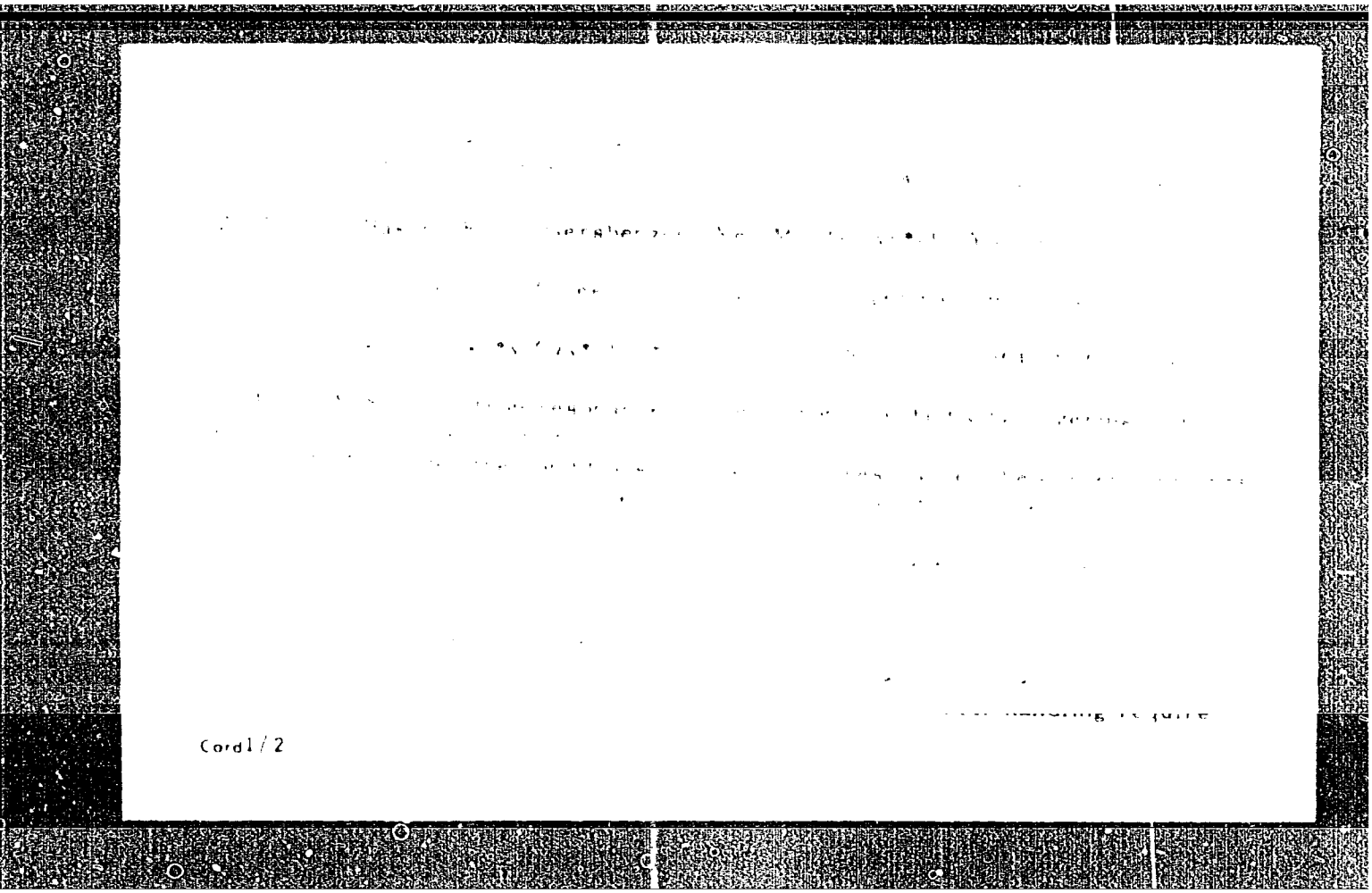
RAKUL', A.A., mekhanik-defektoskopist (st.im.Tarasa Shevchenko Odesskoy dorogi)

Twin defectoscope. Put' i put.khoz. 5 no.11:31 N '61.
(MIRA 14:12)
(Railroads—Rails—Testing)



component of the effective-mass tensor along the axis parallel to





Cord1/2

L 23522-65
ACCESSION NR: AP4046668

extensive computations. The present work gives a kinetic theory of cyclotron

ASSOCIATION: Moskovskiy pedinstitut im. V. I. Lenina (Moscow Pedagogical Institute)

SUBMITTED: 25Jun63 ENCL: 00

SUB CODE: NP, EE NO REF SOV: 002 OTHER: 005

AP6033185 SOURCE CODE: UR/0058/66/000/006/E092/E092

AUTHOR: Bakum, F. I.; Gershenzon, Ye. M.; Gurvich, Yu. A.; Ptitsina, N. G.

TITLE: Investigation on the warming up of the charge carrier in Ge at cyclotron resonance

SOURCE: Ref. zh. Fizika, Abs. 6E722

REF SOURCE: Tr. 1-y Mezhvuz. konferentsii ped. in-tov po radiofiz. i spektroskopii. M., 1965, 187-205

TOPIC TAGS: cyclotron resonator, microwave spectroscope, shf spectrometer, charge carrier, germanium, hot electron

ABSTRACT: The cyclotron resonance of hot electrons in Ge is investigated both theoretically and experimentally. Theoretically, it is shown that, in the case of medium and strong electric fields, the isotopic part of the distribution function depends on the incident radiation frequency. In the case of strong fields, an expression is derived for the shape of the resonant line. The investigations were carried out on three Ge specimens at a frequency of 9.7 cps at T = 4.2K. An autodyne TWT microwave spectroscope using a reflecting operating resonator,

Card 1/2

ACC NR: AR6031585

which is connected in the external feedback circuit of the oscillator by means of a double T-bridge, is used as the SHF-spectrometer. The curves of the dependence of value $(\omega\tau)^{-1}$ (where ω is the frequency, τ — the mean time of pulse relaxation) on incident power have the following three peculiarities: 1) smaller m* (m* is the effective mass) have a smaller $(\omega\tau)^{-1}$ at smaller powers; 2) for small m*, the curves have a greater incline; 3) for large m*, the curves diverge considerably. For smaller m*, the curves virtually coincide. An interpretation of these peculiarities, which takes into consideration the power energy zone structure in p-Ge, is given. F. Nad'. [Translation of abstract]

SUB CODE: 20/

Card 2/2

MIROSHNICHENKO, A.M., kand. tekhn. nauk; PANCHENKO, S.I., doktor tekhn. nauk; SHTROMBERG, B.I., kand. tekhn. nauk; FRISHBERG, V.D., kand. tekhn. nauk; BAYDALINOV, P.A., inzh.; GRYAZNOV, N.S., doktor tekhn. nauk; ZASHKVARA, V.G., doktor tekhn. nauk; LAZOVSKIY, I.M., kand. tekhn. nauk; MARINICHEV, B.T., inzh.; FEL'DBERIN, M.G., kand. tekhn. nauk; BAKUN, N.A., inzh.; BARATS, B.M., inzh.; VOZNYY, G.F., kand. tekhn. nauk; MIKHAL'CHUK, A.M., inzh.; TOPORKOV, V.Ya., kand. tekhn. nauk; FLORINSKIY, N.V., inzh.; KHAYET, A.N., inzh.; SHELKOV, A.K., inzh., red.; ARONOV, S.G., doktor tekhn.nauk, red.; PREOBRAZHENSKIY, P.I., inzh., red.

[Manual for coke chemists in six volumes] Spravochnik koksokhimika v shesti tomakh. Moskva, Izd-vo "Metallurgiia." Vol.1. [Source of raw materials and preparation of coal for coking] Syr'evaia baza i podgotovka uglei k koksovaniiu. 1964. 490 p. (MIRA 17:5)

AUTHOR: Bakun, N.A. 68-58-3-3/22

TITLE: From the Experience of Operating a Weighing Mechanism Controlling the Feeding Table Designed by Engineer Bolotov (Opyt rabety avtodozatorov konstruktsii Inzh. Bolotova)

PERIODICAL: Koks i Khimiya, 1958, Nr 3, pp 13 - 14 (USSR).

ABSTRACT: A weighing conveyor designed by A.N. Bolotov for the proportioning of coal blend components which automatically controls the feeding table is described. The principle of operation is shown in Fig.2. Tests of the equipment indicated a number of design deficiencies which, however, can be easily corrected. There are 2 figures.

ASSOCIATION: Zaporozhskiy koksokhimicheskiy zavod (Zaporozh'ye Coke Oven Works)

Card 1/1

KHANIN, I.M.; BAKUN, N.A.; SATANOVSKIY, S.Ya.

On A.A.Agroskin's book "Chemistry and coal technology." Reviewed by I.M.Khanin, N.A.Bakun, S.IA.Satanovskii. Izv.vys.ucheb.zav.;khim.i khim.tekh. 6 no.4:699-702 '63. (MIRA 17:2)

ACCESSION NR: AP5009271 UR/0370/65/000/001/0148/0150

AUTHOR: Ukshe, Ye. A. (Berezniki); Stepanov, S. I. (Berezniki); Bakun, N. L. (Berezniki)

TITLE: Behavior of solid metals in fused potassium chloride

SOURCE: AN SSSR. Izvestiya. Metally, no. 1, 1965, 148-150

TOPIC TAGS: fused potassium chloride, iron electrode, nickel electrode, titanium electrode, electrode conductivity, electrode capacity, electrode potential, molten salt electrolyte, electrode oxidation, oxide film

ABSTRACT: In order to study the influence of the oxygen present in a melt on metals, the electrochemical behavior of iron (low-carbon steel), nickel (brand NP-2) and titanium (brand VT-1) electrodes [illegible] was investigated at [illegible], the surface of [illegible] with oxygen. The capacity, resistance, and steady state [illegible] of the electrodes were measured (see Fig. 1 of the Enclosure). The [illegible] C-τ and R-τ curves for the iron and nickel electrodes show [illegible] cases a poorly conducting oxide layer is formed on the electrodes. The [illegible] nickel [illegible] so that the stabilization of the capacity and resistance of the nickel electrode

Cord 1/3

L 45462-65

ACCESSION NR: AP5009271

occurs more slowly than in the case of iron. The behavior of titanium in fused KCl is very different. This is due to the fact that once titanium has been oxidized to a certain degree, the oxidized surface layer peels off and becomes dispersed throughout the melt, and the exposed surface again undergoes rapid oxidation. Orig. art. has: 1 figure.

ASSOCIATION: None

SUBMITTED: 24Feb64 ENCL: 01 SUB CODE: MM, IC

NO REF SOV: 004 OTHER: 008

Card 2/3

BAKUN, N.N.; VOLODIN, R.N.; KRENDELEV, F.P.

Geological structure of the Udokan copper sand deposit and prospects for its further investigation. Izv.vys.ucheb.zav.; geol. i razv. 1 no.5:67-83 My '58. (MIRA 12:2)

1. Moskovskiy geologorazvedochnyy institut imeni S. Ordzhonikidze, Kafedra petrografii osadochnykh porod, kafedra poleznykh iskopayemykh, kafedra metodiki poiskov i razvedki.
(Udokan Range--Sand)

BAKUN, N.N.

Formation and secondary changes in sedimentary rocks of the Udokan copper sandstone deposit (Chita Province). Izv.vys.ucheb.zav.; geol. i razv. 1 no.11:41-48 N '58. (MIRA 12:11)

1. Moskovskiy geologorazvedochnyy institut im. S. Ordzhonikidze.
(Udokan region (Chita Province)--Rocks, Sedimentary)

BAKUN, N. N.

Cand Geol-Min Sci - (diss) "Conditions of the formation and secondary changes in sedimentary rocks of the Udokanskiy deposits of cuppous sandstones." Novosibirsk, 1961. 20 pp; (Academy of Sciences USSR, Siberian Division, Joint Academic Council for Geological-Mineralogical, Geophysical, and Geographical Sciences, Ministry of Higher and Secondary Specialist Education USSR, Moscow Geological Survey Inst imeni S. Ordzhonikidze); 220 copies; price not given; (KL, 6-61 sup, 202)

BAKUN, N.N.

Development of structures in the northwestern part of the Fergana oil-bearing area in the Neogene. Trudy VNIGNI no.35:85-89 '61. (MIRA 16:7)

(Fergana--Petroleum geology)

BAKUN, N.N.; VANGENGEYM, E.A.

Age of the Bactrian series of southwestern Fergana according to paleontological data. Dokl. AN SSSR 148 no.2:400-402 Ja '63.
(MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut i Geologicheskiy institut AN SSSR. Predstavleno akademikom D.I. Shcherbakovym.
(Fergana--Geology, Stratigraphic)

BAKUN, N.N.; VOLODIN, N.N.; KRENDELEV, F.P.

Genesis of the cuprous sandstones of the Udokan deposit. Lit. i pol. iskop. no.3:89-103 My-Je '64. (MIRA 17:11)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

Plastering

Application of sectionalized production-line methods to plastering.
Mul. stroi. tekh., 9, no. 1, 1952
Inzh., Minmashstroy, Trest. No. 22

SO: Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

MARCHEVSKIY, V.P.; SOBOLEVSKIY, G.D.; Prinimali uchastiye: BAKUN, T.S., inzh.; GAZHA, V.N., inzh.; KHRIPUNOV, L.F., inzh.; PRIKMAK, A.M., starshiy tekhnik

A high-speed temperature-limiting controller for gas turbine systems. Energ.i elektrotekh.prom. no.4:13-18 O-D '62. (MIRA 16:2)

1. Institut avtomatiki Gosplana UkrSSR.
(Gas turbines) (Temperature regulators)

BAKUN, T.S.; MARCHEVSKIY, V.P.; SOBOLEVSKIY, G.D.

The RKF-1 device for checking the presence of a flame tongue.
Avtom.i prib. no.4:64-65 O-D '62. (MIRA 16:1)

1. Institut avtomatiki Gosplana UkrSSR.
(Combustion) (Photoelectric measurements)

UKSHE, Ye.A.; BAKUM, N.G.

Dissolution of metals in fused halides. Ukr. khim. zh. 30 no.2:243-273 F '61. (MIRA 14:2)

1. Bereznikovskiy filial Vsesoyuznogo alyuminiyevo-magniyevogo instituta.
(Halides) (Metals)

YANONIS, B.P. [Janonis, B.], dotsent; CHEPULIS, I.I. [Čepulis, I.], dotsent; BAKUNAS, I.I., ordinator

Rumenography in traumatic reticulitis of cattle. Veterinariia 40 no.9: 53-55 S '63. (MIRA 17:1)

1. Litovskaya veterinarnaya akademiya.

BAKUNAYEVA, N. I.

USSR/Medicine - Penicillin, Administration and Dosage Oct 48
Medicine - Pneumonia, Therapy

"The Problem of Using Penicillin for Treating Purulent Pneumonia," B. A. Slutskaya, V. M. Zalmanova, N. I. Bakunayeva, First Therapeutic Clinic, Cen Inst for Advancement of Doctors, Hosp imeni Botkin, 8½pp

"Klin Med" Vol XXVI, No 10

Describes various cases. Concludes that penicillin is one of chief methods of treating acute purulent pneumonia. Method of administration is important. Should first be intratracheal, then intramuscular. Dosage for abscesses should be at least 200,000 units a day.

PA 31/49T26

BAKUNCHIK, G.

Communist Youth League fighting for the durability of manufactured articles. Mashinostroitel' no.1:30 Ja '61. (MIRA 14:3)

1. Sekretar' komsomol'skoy organizatsii remontno-mekhanicheskogo tsekha Minskogo podshipnikovogo zavoda.
(Minsk—Bearing industry)

PETROV, A.D.; SOKOLOVA, Ye.B.; BAKUNCHIK, G.P.

Reaction of the methyl esters of mono- and dicarboxylic acids of ferrocene with α- and β-magnesium haloalkylsilanes. Dokl. AN SSSR 148 no.3:598-600 Ja '63. (MIRA 16:2)

1. Moskovskiy khimiko-tekhnologicheskiy institut im. D.I. Mendeleyeva. 2. Chlen-korrespondent AN SSSR (for Petrov)
(Ferrocenedicarboxylic acid) (Grignard reagents)
(Silane)

SHPET, G.I.; KHARITONOVA, N.N.; BAKUNENKO, L.A.

Comparative morphology of the gill apparatus of the goldfish (Carassius auratus gibelio Bloch.) and the carp (Cyprinus carpio L.) in relation to differences in their feeding habits. Zool. zhur. 40 no.11:1691-1695 N '61. (MIRA 14:11)

1. Research Institute of Fishery Management Ukrainian Academy of Agricultural Sciences, Kiev.
(Carp) (Gills) (Fishes--Food)

SHPET, G.I.; KHARITONOVA, N.N.; BAKUNENKO, L.A.

Effect of the variety of food on the morphology of the gill apparatus in the crucian carp and carp. Vop. ekol. 5:249-250 '62.
(MIRA 16:6)

1. Ukrainskiy nauchno-issledovatel'skiy institut rybnogo khozyaystva, Kiyev.

(Gills) (Carp)

BAKUNIAK, L.

"For faster progress in mechanizing the cultivation of flax in state-owned farms and collective farms." (p. 61). NOWE ROLNICTWO (Panstwowe Wydawnichtwo Rolnicze i Lesne) Warszawa, Vol 3, No 1, Jan. 1954.

SO: East European Accessions List, Vol 3, No 8, Aug 1954.

BAKUNIAK, E.

POL

5312

631.521 : 631.333.831 621.358

Bakuniak E. Machines for Flax Cultivation, Harvesting, Seed Removal and Cleaning.

„Maszyny do uprawy, zbioru, odziarniania i oczyszczania lnu". Mechanizacja Rolnictwa No. 3—4. 1954. pp. 41—44.

Difficulties encountered in designing sowers for flax intended for fibre. Survey of the two-row furrow opener of the Soviet SLU-44 and the German „Saxonia" type sowers which can be spaced from 4 to 6 cm. The chief disadvantage of the German type furrow opener is that it is too heavy. The author describes a furrow opener of Polish design which allows regulation of the seeding depth. Description of the Soviet LTT type flax puller. A Polish flax puller now being built on similar lines and arranged for „ZETOR" tractor draught will carry 5 rows i.e. only two less than the Soviet machine. Reference is also made to a seed removing machine about to be built in Poland. It will have no

seed bag crusher, thus making it possible to obtain from 60 to 70 per cent of the seed bags intact. this will curtail to 10 per cent of the total of seed dealt with the generally costly and labour-absorbing process of cleaning darnel and dodder from seeds squeezed out of the seed bags. The separation from undamaged seed of darnel and dodder is simple, rapid, and roughly 99.5 per cent accurate. Elimination from the seed separator of the crusher will thus produce the following fractions — unbroken and clean seed bags (60—70%), broken bags plus weed seed and other impurities (30—40%). Moreover, the total quantity of seed obtained and meeting the requirements of seed stock will increase by not less than 15 per cent, since it is only the second of the two fractions referred to which requires costly cleaning.

BAKUNIN, A.V., kand.istor.nauk; PANFILOV, A.P., kand.iskuss.nauk; DOLGINTSEV, G.M., starshiy prepodavatel'

From the work practice of industry in the Sverdlovsk Economic Region under new conditions. Trudy Ural. politekh. inst. no.95:25-40 '59. (MIRA 13:8)
(Sverdlovsk Province--Industries)

BAKUNIN, A.V., dotsent, kand. istoricheskikh nauk; DOLGINTSEV, G.M., dotsent, kand. istoricheskikh nauk; PANFILOV, A.P., dotsent, kand. iskusstv. nauk; PLOTNIKOV, I.F., dotsent, kand. istoricheskikh nauk

The party organization of Sverdlovsk Province in the struggle for strengthening the cooperation between science and industry. Sbor. nauch. trud. Ural. politekh. inst. no.122:5-28 '61. (MIRA 17:12)

BAKUNINA, A. P.

Physiological Laboratories

Significance of clinical laboratory analysis and rules for obtaining and supplying the material to be examined. Med.sestra 5, 1952.

Monthly List of Russian Accessions, Library of Congress August 1952. Unclassified.

BAKUNINA, N.D., inzh.

Oiling machines. Sbor. st. NIITIAZHMASHa Uralmashzavoda no.6:146-155 '65. (MIRA 18:11)

BAKUNINA, O.; RABINOVICH, M.

Efficiency of loans for temporary needs. Den.i kred. 20 no.5:21-24 My '62. (MIRA 15:5)
(Credit)

BAKUNINA, V. V.

AUTHORS: Faddeyeva, M. S., Pavlov, O. N., Bakunina, V. V. 78-1-30/43

TITLE: A Method for the Extraction of Technetium From Irradiated Molybdenum (Ekstraktsionnyy metod vydeleniya tekhnetsiya iz obluchennogo molibdena).

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 1, pp. 165-166 (USSR)

ABSTRACT: The main quantities of technetium are, at present, produced from fission fragments. Its production, however, from neutron-irradiated molybdenum-anhydride and the 6-hour isomer Tc^{99m} is also of interest. In the first case the following has to be taken into account: 1.-Separation of technetium from molybdenum, 2.-Separation of technetium from foreign radio-activity, 3.-Concentration with least possible impurity. The methods of isolation known are complicated and tedious enough. They mostly supply only a final product as a concentration on a carrier. With regard to simplicity and carrier-free production of Tc the extraction method is the most promising. Methyl-ethyl ketone was selected for this. The distribution coefficient of Tc between pure water and methyl-ethyl ketone is not high = 1,3. Optimum results were obtained with the salting out substances: KOH, K_2CO_3 and $(NH_4)_2CO_3$. As is seen from fig. 1 the distribution coefficient of Tc increases to several hundred in this case. Molybdate has a similar effect. From the comparison of the curves I and II we see however,

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that the increase of the concentration of KOH decreases the distribution coefficient of Tc if there are greater quantities of molybdate present in the solution. An analogous picture is observed with NH_4OH. The above mentioned considerations are made for the purpose of producing a pure 6-hour isomer Tc^{99m}. The double washing of the ketonic layer with 5-6 n K_2CO_3 solution supplied this isomer with a half life of 6,1 hours. This as well as the complete lacking of an activity after 56-70 hours spoke in favor of a high radiochemical purity of the preparation. Furthermore the experiment was made to produce from the irradiated MoO_3 the long-lived isotope T^{99} with a half life of $2,12.10^5$ years. For this corresponding number of extractions of the methyl-ethyl ketone and the re-extraction with 6 n K_2CO_3 solution was used. The yield, checked with the 6-hours isomer, amounted to 99,9%. The chemical and radiochemical purity were very high. The technetium produced was identified after the absorption of β-radiation by aluminium (fig. 2). Also an identification according to the absorption spectrum of the TcO_4^- ion in the ultraviolet range of the spectrum was carried out (fig. 3). The maxima determined at the wave length 247 and 290 mμ agree with the data from literature. Absolute measurements

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were carried out by means of an 4-π-counter with a methanol-argon filling. By means of this method it was possible to isolate about 1 mg of technetium with a yield of the calculated relative content of 75-80% Tc.
There are 3 figures.

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TITLE: Creep of Al_2O_3 polycrystalline ceramics at high temperatures

SOURCE: Ogneupory, no. 1, 1967, 39-46

TOPIC TAGS: alumina, ceramics, creep, plastic deformation, refractory, heat induced deformation, high temperature effect, ceramic material, ceramic product property

ABSTRACT: Creep of polycrystalline ceramics is characterized as thermally activated plastic deformation of crystals under stress. Experimental data on the creep of ceramics are needed to evaluate the structural properties of refractories which are intended for use at high temperatures under load. Published theories on the creep process are discussed to show that the experimental study of creep processes are needed to determine their mechanism of deformation and general characteristics. Creep was studied using polycrystalline ceramic specimens prepared from a technical alumina alone and with additions of MgO or TiO_2. Composition, preparation conditions, and some characteristics of the ceramics are given in Tables 1 and 2. The experimental results are shown in Table 3.

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Table 1. Properties and density of sintered ceramic based on AL_2O_3

Specimen index	Additive		Calcination		Indices of the sintered material	
	Form	%	Temperature, °C	Holding time, hr.	Apparent density (volume weight) g/cm³	True porosity
A-1	—	—	1730	2	3,85	3,8
A-2	—	—	1730	16	3,99	1,8
A-3	—	—	1650	2	3,84	4,0
A-M	MgO	0,5	1730	2	3,90	2,5
A-T₁	TiO_2	1,0	1600	2	3,85	3,8
A-T₂	TiO_2	1,0	1700	1,5	3,86	3,6

Data on the rate of creep as a function of particle size, temperature, and applied load are presented graphically. At a constant temperature and constant load, the creep rate of alumina ceramics decreased with increasing calcination temperature and time. At stresses up to 25 kg/cm², the rate of deformation of alumina ceramics increased linearly

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